REMARKS

This is intended as a full and complete response to the Final Office Action dated January 11, 2007, having a shortened statutory period for response set to expire on April 11, 2007. Applicants submit this response to place the application in condition for allowance or in better form for appeal. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-45 are pending in the application. Claims 1-45 remain pending following entry of this response. Claims 34-41 have been amended. Applicants submit that the amendments do not introduce new matter.

Claim Objections

Claims 34-41 are objected to because of the following informality: "computer readable medium" should be "computer readable storage medium".

Applicants have made the requested amendments, and respectfully request the objection be withdrawn.

Claim Rejections - 35 U.S.C. § 103

Claims 1-45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Olson et al* (hereinafter "*Olson*") (Publication Number 2001/0016843) in view of *Chu* (Patent Number 5,956,707.

Applicants respectfully traverse this rejection.

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *See* MPEP § 2142. To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP § 2143. The present rejection fails to establish at least the third criteria.

For Claims 1, 12, 18, 33, 42 and their dependents:

The Examiner maintains that *Olson* teaches "providing a logical model stored in physical storage space and logically describing the physical fields, the logical model comprising logical fields corresponding to respective physical fields" at paragraph [0082]. However, paragraph [0082] is directed towards using binding plans to map a virtual source and a physical source. Respectfully, the Examiner wrongly equates Olson's binding plans with the logical models in the present application. A binding plan consists of source binding, where source binding consists of mapping a virtual source and a physical source, such that every column in the former is mapped to some column in the latter. *See Olson*, paragraph [0082]. Respectfully, a binding plan consists of merely a mapping of columns. Therefore, the binding plans do not logically describe physical fields. Binding plans are associational while logical models are descriptive. For example, claim 1 recites that each logical field is defined by the logical model to include an access method describing a manner of accessing the corresponding respective physical field. A simple mapping of a virtual source to a physical source, as in *Olson*, does not teach such a logical field definition. Therefore, binding plans are not a logical model logically describing the physical fields, wherein the logical model comprises logical fields corresponding to respective physical fields. Id.

In this regard, the Examiner maintains that *Olson* teaches "wherein each logical field is defined by the logical model to include an access method describing a manner of accessing the corresponding respective physical field" at paragraph [0083]. However, paragraph [0083] is directed to executing queries in the context of a binding plan. Again, use of binding plans is not the same as use of a logical field, defined by a logical model to include an access method, to describe a manner of accessing the corresponding respective physical field.

The Examiner maintains that *Olson* teaches "wherein the abstract query is defined with respect to at least one logical field of the logical model and wherein at least one value is specified for the at least one logical field" at paragraph [0082]. However, paragraph [0082] is directed towards using binding plans to map a virtual source and a physical source. Again, binding plans are distinct from logical models. *Olson* does not teach, show or suggest defining an abstract query with respect to at least one logical field of a logical model. Instead, *Olson* teaches executing queries in the context of a binding plan. *See Olson*, paragraph [0083]. *Olson* uses this binding plan to manage, extract, and display information from multiple data sources. See *Olson*, paragraph [0002].

The Examiner further maintains that *Olson* teaches "wherein the modified abstract query is defined with respect to the at least one logical field" at paragraph [0082]. First, *Olson* does not teach modifying abstract queries. Second, *Olson* does not teach defining queries with respect to logical fields. Instead, *Olson* teaches executing queries in the context of binding plans. *See Olson*, paragraphs [0082]-[0083]. Respectfully, *Olson* does not teach "wherein the modified abstract query is defined with respect to the at least one logical field."

Additionally, the Examiner maintains that *Olson* teaches that "the transformed physical query includes a reference to a physical field of at least one of the physical fields, the physical field corresponding to the at least one logical field" at paragraph [0082]. However, *Olson* does not teach transforming physical queries. Additionally, *Olson* does not teach referencing physical queries, transformed or otherwise, to at least one physical field which corresponds to at least one logical field. Paragraph [0082] is directed to a binding plan, a mere mapping of columns between a virtual source and a physical source. Respectfully, *Olson* does not teach that "the transformed physical query includes a reference to a physical field of at least one of the physical fields, the physical field corresponding to the at least one logical field."

Finally, the Examiner maintains that *Chu* teaches "providing a runtime component stored in physical storage space and configured to change at least one element of an abstract query to produce a modified abstract query which, when executed in the form of a transformed physical query, returns results, the modifying being directed to satisfying a result set criterion with the returned results" at column 4, lines 36-43. However, column 4, lines 36-43 teaches using a Type Abstraction Hierarchy structure to relax the conditions of one or more attributes. Relaxing consists of lessening the restriction on a query to return more results. *See Chu*, column 1, lines

26-33. This relaxation method (by definition) is not capable of further restricting a query in the case that too many results are returned, which is a necessity in modifying abstract queries to satisfy a result set criterion. *Chu* only teaches increasing the number of returned results. Therefore, *Chu* is incapable of decreasing the number of returned results. Respectfully, *Chu* does not teach "providing a runtime component stored in physical storage space and configured to change at least one element of an abstract query to produce a modified abstract query which, when executed in the form of a transformed physical query, returns results, the modifying being directed to satisfying a result set criterion with the returned results."

For Claims 12, 19, 33 and their dependents:

The Examiner maintains that *Olson* teaches "the logical model comprising logical fields corresponding to respective physical fields and each having an associated modification parameter" at paragraph [0080]. However, paragraph [0080] is in fact directed towards using one "logical" query in place of using several isomorphic queries. That is in no way related to using a logical model comprising logical fields, each having an associated modification parameter. Additionally, nowhere in *Olson* is an associated modification parameter taught. Therefore, Applicants respectfully submit that *Olson* does not teach, show or suggest a "logical model comprising logical fields corresponding to respective physical fields and each having an associated modification parameter."

Additionally, the Examiner maintains that *Olson* teaches "receiving an abstract query comprising a result set criterion and selection criterion comprising at least one of the logical fields of the logical model" at paragraph [0080]. As discussed above, paragraph [0080] teaches using one "logical" query in place of using several isomorphic queries. Nowhere does *Olson* teach using an abstract query to meet a result set criterion. *Olson* teaches a system for accessing data from multiple sources. *See Olson*, paragraph [0002]. *Olson* does not teach using abstract queries composing a result set criterion. Therefore, *Olson* does not teach "receiving an abstract query comprising a result set criterion and selection criterion comprising at least one of the logical fields of the logical model."

Furthermore, the Examiner maintains that *Chu* teaches "manipulating the abstract query to produce a modified abstract query which, when executed, returns results; wherein the manipulating is, at least in part, defined by the modification parameter" at column 4, lines 36-43. As discussed above, column 4, lines 36-43 is directed to using a Type Abstraction Hierarchy structure to relax the conditions of one or more attributes. *Chu* only teaches relaxing query conditions; it does not teach further restriction of query conditions. Therefore, *Chu* does not teach, show or suggest manipulating the abstract query to produce a modified abstract query which, when executed, returns results; wherein the manipulating is, at least in part, defined by the modification parameter.

For Claims 19, 33 and their dependents:

The Examiner maintains that *Chu* teaches "programmatically manipulating an element of the abstract query to produce a modified abstract query which, when executed, returns results; the manipulating being directed to satisfying the result set criterion with the returned results" at column 4, lines 36-43. However, column 4, lines 36-43 do not teach returning a smaller result set. Furthermore, the Examiner maintains that *Chu* teaches "a result set criterion specifying at least a size of a desired result set" at column 1, lines 25-27 and column 6, line 14. However, Column 1, lines 25-27 is directed to only relaxing the query condition, *i.e.* increasing the result set. And column 6, line 14 is directed toward returning at least N results. *Chu* does not teach restricting the result set to conform with a maximum desired result set. Because the ability to increase or decrease the result set is required to return the desired result set, *Chu* does not teach the claim limitation. Therefore, *Chu* does not teach "a result set criterion specifying at least a size of a desired result set; and programmatically manipulating an element of the abstract query to produce a modified abstract query which, when executed, returns results; the manipulating being directed to satisfying the result set criterion with the returned results."

For Claim 26 and its dependents:

The Examiner maintains that *Olson* teaches "changing a first element of the query to produce a modified query" at paragraph [0080]. Paragraph [0080] is directed towards using one "logical" query in place of using several isomorphic queries. Using one "logical" query in place of using several isomorphic queries is in no way modifying a query. The "logical' query is merely the logical equivalent of the isomorphic queries, not a modified form of isomorphic queries. Therefore, *Olson* does not teach "changing a first element of the query to produce a modified query."

Additionally, the Examiner maintains that *Chu* teaches that "the user-specified result criterion specifies a number of modified queries to be generated by changing the first or second element" at column 1, lines 25-27 and column 6, line 14. These citations, as discussed above, are directed to relaxing query conditions and returning at least N results, respectively. Neither citation is directed to specifying a number of modified queries to be generated. Specifically, column 1, lines 25-27 only teaches that attributes of a query can be relaxed, it does not teach how many modified queries can be generated. Although *Chu* does teach relaxing attributes within a certain range of values, it does not teach modifying multiple queries. *See Chu*, column 6, lines 10-11. Respectfully, *Chu* does not teach "the user-specified result criterion specifies a number of modified queries to be generated by changing the first or second element."

Therefore, Claims 1, 12, 19, 26, 33, 42 and their respective dependents are believed to be allowed, and allowance of the claims is respectfully requested.

Conclusion

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

If the Examiner believes any issues remain that prevent this application from going to issue, the Examiner is strongly encouraged to contact Gero McClellan, attorney of record, at (336) 643-3065, to discuss strategies for moving prosecution forward toward allowance.

Respectfully submitted, and
S-signed pursuant to 37 CFR 1.4,

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